

REMARKS

Entry of the foregoing, re-examination and reconsideration of the subject matter identified in caption, as amended, pursuant to and consistent with 37 C.F.R. §1.112, and in light of the remarks which follow, are respectfully requested.

Claims 1 and 5 have been amended in response to issues raised in the Office Action. Claims 1-13 remain pending in the application. Claims 9-13 stand withdrawn from consideration on the merits.

Claim 5 was rejected under 35 U.S.C. §112, second paragraph, for the reasons given on page 2 of the Office Action. In response thereto, the claim has been amended to provide antecedent basis for "a solution comprising the catalyst" and "to fix iron present in the solution." Accordingly, the §112 rejection has been obviated and should be withdrawn.

Applicants acknowledge with appreciation the Examiner's indication that claims 5-8 are allowable and that dependent claim 4 is drawn to patentable subject matter.

Claims 1-3 were rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 5,582,737 to Gula et al. or U.S. Patent No. 5,281,631 to Horwitz et al. for the reasons given on page 3 of the Office Action. Reconsideration and withdrawal of these rejections are respectfully requested in view of the above amendment to claim 1 and for at least the following reasons.

Claim 1, as amended, is directed to a process for selectively removing iron from a solution containing at least iron and vanadium, by treating the solution with an ion-exchange resin having diphosphonic acid groups. As opposed to known processes, the method of the invention selectively removes iron from solutions

comprising iron and vanadium while not significantly altering the concentration of vanadium in the solution. This method is particularly useful in treating vanadium-containing catalytic solutions obtained from certain oxidation reactions prior to recycling the solution.

Gula et al. '737 discloses treating solutions containing iron (III) ions and ions having a valence of less than 3+, specifically manganese, copper and cobalt ions with an ion-exchange resin containing diphosphonate groups. The treatment is designed to selectively remove iron from sulfuric acid solutions containing divalent metal ions; note column 2, lines 40-60.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Gula et al. '737 fails to disclose or suggest treating solutions containing iron and vanadium with an ion-exchange resin containing diphosphonic acid groups from the solution. Accordingly, the §102(b) rejection based on this document should be withdrawn. Such action is respectfully requested.

Horwitz et al. '631 essentially is directed to the preparation of ion-exchange resins derived from acrylonitrile, styrene and/or divinyl benzene and which contain diphosphonic acid groups. The ion-exchange resins are disclosed to be useful in preferentially removing toxic metal ions relative to alkaline and alkaline earth metal ions from strongly acidic water based wastes (column 1, lines 46-49) and removing actinide metal ions in III, IV and VI oxidation states and transition and post transition metals from highly acidic and basic waste solutions (column 1, lines 65-68).

The only mention of vanadium is in column 7, lines 51-56: a suggestion of removing "a wide variety of hazardous metal ions (V, Cr, Mn, Co, Ni, Zn, Cd, Hg, Pb) from groundwater and industrial waste waters", and a suggestion of removing "traces of toxic metals such as V, Cr, Mn, Co, Ni, Cu, Zn, Cd, Hg and Pb from drinking water to ensure potability."

Clearly, Horwitz et al. '631 fails to disclose or suggest the claimed process of treating solutions containing iron and vanadium to selectively remove iron therefrom. As such, the §102(b) rejection based on this document should be withdrawn. Such action is earnestly requested.

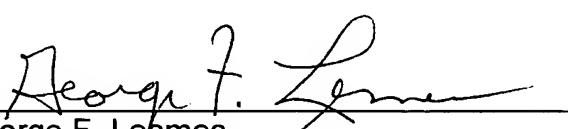
From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such action is earnestly solicited. If there are any questions concerning this paper or the application in general, the Examiner is invited to telephone the undersigned at (703) 838-6683 at his earliest convenience.

Respectfully submitted,

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Date: March 15, 2004

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